USSR/Geography - Kalinin Oblast   May/Jun 5B

"Review of N. M. Bocharov's Nature of Kalinin Ob-
last'" (B. A. Shirokov, reviewer)

Iz V-s Geog Ob, Vol 85, No 3, pp 308, 309

Favorably reviews Bocharov's book "Priroda Kalinin-
skoy Oblasti," edited by Prof. V. Guseman, Kalin-
inizdat, 1951, 127 pp, 500 copies, 6 rubles.

SHIROKOV, B.A.

Geography of Kalinin Province. Reviewed by B.A. Shirokov. Geog. v shkole
no.3:78-79 My-Je '53.
        (Kalinin Province--Geography)   (Bocharov, M.M.)   (MLRA 6:9)

KALMYKOVA, Valentina Grigor'yevna; KOREPANOV, Yakov Aleksoyevich;
     LEBEDEV, Aleksandr Aleksandrovich; MAYEVSKIY, Viktor Iosifovich;
     SHIROKOV, Boris Arkad'yevich; BOCHAROV, M.M., kand.geograf.nauk,
     red.

[Excursions for studying the nature of the native land; collection
of articles] Ekskursii po izucheniiu prirody rodnogo kraia;
sbornik statei. Pod red. M.M.Bocharova. Kalinin, Knizhnoe izd-vo,
1955. 164 p.   (MIRA 12:10)
              (Nature study)

NOVIKOV, Aleksandr Aleksandrovich, dvazhdy geroy Sovetskogo Soyuza;
SHIROKOV, B.A., red.; GURDZHIYEVA, A.M., tekhn. red.

[Jet equipment in commercial aviation] Reaktivnaie tekh-
nika v transportnoi aviatsii. Leningrad, Ob-vo "Znanie"
RSFSR, 1963. 64 p.

(MIRA 17:3)

MURDTY, T. T.

Agriculture

The experience of mastering the grassland system in agriculture, Moskva, Sel'khozgiz, 1951

9.   MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, December 1952. Uncl.

_____, _. _., _____

Rotation of Crops

"Experience in adopting grassland agriculture." Reviewed I. _. _rin. _rr. _ r__. __., no. /, 1952.

2.   _____ ____ __ ___ __ ___ _____, Library of Congress. November 1952. Uncl.

COUNTRY   : USSR
CATEGORY   : Soil Science. Organic Fertilizers.   J

ABS. JOUR.   : RZhBiol., No. 3   1959, No. 10702

AUTHOR   : Zalyalov, F. K., Shirokov, B. G., Gayrenko, G. I.
                  Timiryazev Agricultural Academy
                  Organic-Mineral Fertilizing Mixtures on Southern
                  Chernozems of Stalingrad Oblast'.

ORIG. PUB.   : I.v. Timiryazevsk. s.-kh. akad., 1957, No. 5, 37-42

ABSTRACT   : On the chernozems of Stalingrad oblast', application of
                  organic-mineral mixtures is a highly effective method and
                  more within the reach of the kolkhozes of this zone since
                  it requires fewer expenditures. Organic-mineral mixture
                  applied to a fallow field is not less effective than 20
                  tons of manure applied in combination with the same
                  amount of mineral fertilizers which are a part of the
                  fertilizing mixture. -- V. D. Astaf'yeva

CARD: 1/1

33

ISPIRYAN, G.P., kand.tekhn.nauk; SHIROKOV, B.G., inzh.

Economics of cutting out chrome-tanned pigskin butts.
Leg.prom. 17 no.8:7-9 Ag '57.   (MIRA 10:10)
              (Hides and skins)

ISPIRYAN, G.P., kand. tekhn. nauk; KUKULYAN, S.P., inzh.; MALKIMAN, Ye.I.,
     inzh.; SHIROKOV, B.G., inzh.

     Tanning hides in butts divided into two portions. Leg. prom. 18 no.3:
     11-12 Mr '58.   (MIRA 11:4)
                              (Tanning)

SHIROKOV, B.G., inzh.; MERZON, A.G., inzh.

Practical shape of leather to be used for shoe welts. Kozh.-
obuv.prom. no.9:14-17 S '59.   (MIRA 13:2)
(Shoe manufacture)

SHIROKOV, B.G., inzh.

    Methods for grading large hides by their thickness. Kozh.-
obuv.prom. 2 no.7:24-27 Jl '60.   (MIRA 13:8)
            (Hides and skins)

VISHNEVSKIY, Yu.S. [Vyshenevs'kyi, IU.S.]; SHIROKOV, B.G. [Shyrokov, B.H.]

Manufacture of chrome leather by the liming method without
coating. Leh. prom. no.4:24-25 O-D '62.   (MIRA 16:5)

1. Nikolayevskiy kozhevenno-obuvnoy kombinat (for Vishnevskiy).
2. Ukrainskiy nauchno-issledovatel'skiy institut kozhevenno-
obuvnoy promyshlennosti (for Shirokov).

KHRIPIN, A.G. [Khrypin, A.H.]; BRAGINSKII, M.A. [Brahins'kyi, M.A.];
   BEREZOVSKAYA, M.G. [Berezovs'ka, M.H.]; SHIROKOV, B.G. [Snyrokov,
   B.H.]; MOROZYUK, M.I.; ROZENBERG, Kn.N.

The ASD-1 unit for drying chrome leather in a dynamic state.
Leh. prom. no.2:21-24 Ap-Je'64   (MIRA 17:7)

SHIROKOV, B.G., inzh.; GRISHILO, V.F., inzh.

Manufacture of shoe materials from several layers of split leather. Kozh.-obuv.prom. 6 no.11:26 N '64.

(MIRA 18:4)

KONDRAT'YEV, Afanasiy Borisovich, kand.tekhn.nauk; YERSHOVA, Galina
Nikolayevna, inzh.; MEN'SHIKOV, Ivan Alekseyevich, prof., doktor
tekhn.nauk; MOSKOVSKIY, Mikhail Ivanovich, kand.tekhn.nauk;
SOBOLEV, David Iosifovich, kand.tekhn.nauk; SMIL'GEVICH, Petr
Kazimirovich, inzh.; SHIROKOV, Boris Ivanovich, kand.sel'sko-
khoz.nauk. Prinimali uchastiye: TRABIN, Boris Nikolayevich, inzh.;
OSOBOV, Vadim Izrailevich, inzh. BRIK, P.A., prepodavatel',
retsenzent; IVANOV, V.A., prepodavatel', retsenzent; KOGANOV, A.,
prepodavatel', retsenzent; KONONOV, B.V., prepodavatel', retsenzent;
MARKOV, G.Ya., prepodavatel', retsenzent; OSIPOV, G.P., prepoda-
vatel', retsenzent; RYABOV, P.I., prepodavatel', retsenzent;
SOLOV'YEV, K.Ya., prepodavatel', retsenzent; SOROKIN, V.Ya., pre-
podavatel', retsenzent; BANNIKOV, P., red.; VORONKOVA, Ye.,
tekhn.red.

[Manual for collective farm machinery operators] Spravochnik mekha-
nizatora sel'skogo khoziaistva. Penza. Penzenskoe knizhnoe izd-vo,
1959. 610 p.   (MIRA 14:2)

1. Saratovskiy institut mekhanizatsii sel'skogo khozyaystva imeni
M.I.Kalinina (for Brik, Ivanov, Koganov, Kononov, Markov, Osipov,
Ryabov, Solov'yev, Sorokin).
     (Agricultural machinery)   (Farm mechanization)

ZHEGALIN,I.K.; PUSTYGIN, A.A., glav. agronom; SPODENYUK, N.I.;
    BYKOV,N.I.; REDIN, P.N., glav. agronom; LOGVIN, N.P., Geroy So-
    tsialisticheskogo Truda; GUSEV, I.D.; PETROV, S.N.; VLASOV, A.N.,
    glav. zootekhnik; SHEREMET, L.D., glav. bukhgalter; SKAKUNOV, N.V.,
    glav. inzh.; SHUMILIN, V.S., glav. inzh.; CHERNORUBASHKIN, N.A.,
    kombayner; DRYABO, N.Ye.; ZABNEV, V.F., redaktor; SHIROKOV, B.G.;
    SHEPELEV, M.A.; LEONOVA, T.S.; SAYTANIDI, L.D., tekhn. red.

[Hundred million poods of grain from Stalingrad Province] 100 mil-
lionov pudov stalingradskogo khleba. Moskva, Izd-vo M-va sel'.khoz.
RSFSR, 1960. 133 p.   (MIRA 14:9)

1. Pervyy sekretar' Stalingradskogo oblastnogo komiteta Kommunistiche-
skoy partii Sovetskogo Soyuza (for Zhegalin). 2. Oblastnoye upravleniye
sel'skogo khozyaystva Stalingradskoy oblasti (for Pustygin). 3. Ne-
khayevskiy rayonnyy komitet Kommunisticheskoy partii Sovetskogo Soyuza
(for Spodenyuk). 4. Nachal'nik Kotel'nikovskoy rayonnoy sel'skokho-
zyaystvennoy inspektsii, Krayniy Yugo-vostok(for Bykov). 5. Kolkhoz
"Deminskiy" Novo-Annenskogo rayona, Stalingradskoy oblasti (for Redin).
6. Predsedatel' kolkhoza "Zavety Il'icha" Kalininskogo rayona (for Log-
vin). 7. Nachal'nik Novo-Annenskoy rayonnoy sel'skokhozyaystvennoy in-
spektsii (for Gusev). 8. Direktor sovkhoza imeni Frunze Serafimovich-
skogo rayona Stalingradskoy oblasti (for Petrov). 9. Stalingradskoye
oblastnoye upravleniye sel'skogo khozyaystva (for Vlasov). 10. Sovkhoz
"Dinamo" Nekhayevskogo rayona Stalingradskoy oblasti (for Sheremet).
                              (Continued on next card)

ZHEGALIN,I.K.—— (continued) Card 2.

11. Oblastnoye upravleniye sel'skogo khozyaystva Stalingradskoy oblasti (for Skakunov). 12. Sovkhoz "Verkhne-Buzinovskiy" Stalingradskoy oblasti (for Shumilin). 13. Otdeleniye No.6 sovkhoza "Serebryakovskiy" Mikhaylovskogo rayona Stalingradskoy oblasti (for Chernorubashkin). 14. Zven'yevoy kolkhoza imeni Lenina Zhirnovskogo rayona Stalingradskoy oblasti (for Dryabo). 15. Danilovskaya rayonnaya gazeta "Kolkhoznoye znamya" Stalingradskoy oblasti (for Zabnev). 16. Zamestitel' predsedatelya oblastnogo ispolnitel'nogo komiteta Stalingradskoy oblasti (for Shirokov).

(Volgagrad Province—Grain)

USSR/ Physics — Electroosmosis of soil   FD-1043

Card 1/1   :   Pub. 153 - 14/23

Author   :   Shirokov, B. I.

Title   :   Problem of the utilization of the electroosmosis of soil in plowing

Periodical   :   Zhur. tekh. fiz., 24, 1474-1482, Aug 1954

Abstract   :   Experiments with electroosmosis indicate that an electric current
                  can be used as a powerful factor in the immediate action on soil for
                  varying its technological properties during plowing. Laboratory
                  tests show that electroosmosis permits a sharp decrease in resis-
                  tance of soil to deformation and also lessening of friction of soil
                  against steel. Field tests on the use of electroosmosis in plowing
                  reveal in every case lessened soil and plow resistance. Most effec-
                  tive is a voltage of 120v, current density .008 -.12 a/cm^2, soil
                  moisture 24-26%, plow depth 20-25 cm; then the resistance decreases
                  15-17%. Twenty-one references, 10 USSR (e.g. F. F. Engel', 1952).

Institution   :   - —

Submitted   :   19 March 1954

SHIRCKOV, B. I.

SHIRCKOV, B. I. -- "Investigation óf the Phenomena of Soil Electro-Csmo-
    sis as Applied to Plowing." All-Union Order of Lenin Academy of Ag-
    ricultural Sciences imeni V. I. Lenin. All-Union Sci Res Inst of
    Fertilization, Agricultural Engineering, and Soil Sciences. Moscow,
    1955. (Dissertation for the Degree of Candidate in Agricultural Sciences).

So.: Knizhnaya Letopis', No. 6, 1956.

USSR/Soil Science - Physical and Chemical Properties of Soils.   J.

Abs Jour   :   Ref Zhur - Biol., No 15, 1958, 67889

Author   :   Shirokov, B.I.

Inst   :   Penza Agricultural Institute.

Title   :   The Influence of Electroosmosis on Soil Structure.

Orig Pub   :   Sb. tr. Penzensk. s.-kh. in-ta, 1956, No 1, 322-326,

Abstract   :   By applying an electric current to the soil the author was
               able to study the effect of electroosmosis on soil struc-
               ture. Specimens of the soil of a water-meadow were collec-
               ted from the 10-20 cm. horizon without disturbing their
               structure. The structural state of the soil was computed
               by Andrianov's method, using the strength of the structural
               aggregates when exposed to water. A 500 volt current ap-
               plied for 0.3 and 20 seconds had no effect on the water-
               strength of the structural aggregates. -- N.A. Komarova

Card 1/1

- 12 -

SHIROKOV, D.D., gornyy inzhener.

Ways of improving the productivity of a rock dump. Ugol' 30 no.1:
41-42 Ja '55.   (MLRA 8:3)

1. Shakhta No.8 "Lipkovskaya" tresta Krasnogvardeyskugol'.
    (Mine railroads--Cars)

FIL'KIN, I.N.; ROZENBLAT, M.M.; SHIROKOV, E.V.

Increasing the reliability of the means of controlling mechanical
presses. Kuz.-shtam.proizv. 3 no.7:16-20 Jl '61.   (MIRA 14:6)
    (Power presses)   (Automatic control)

SAVCHENKO, P. (Kiyev); KORSHUN, A. (s.Gagino, Gor'kovskaya oblast');
DOLMATOV, P. (Moskva); DOROSHENKO, A. (g.Nikolayev); YEVSEYEV, G.
(Simferopol'); SHIROKOV, F. (Vol'sk, Saratovskaya oblast');
BOROVIKOV, M. (Minsk); USHAKOV, B. (Moskovskaya oblast');
SAGAYDAK, I. (Karaganda); NECHIPORENKO, I. (Sumy).

At the fighting stand. Pozh.delo 3 no.10:22-23 O '57. (MIRA 10:11)
                        (Firemen)

SHIROKOV, F., inzh.

Ionic decontamination of fresh water on a ship. Mor. flot 24
no.12:27-28 D '64.
(MIRA 18:2)

SHIROKOV, F.A.

Standard specifications for gas-purification apparatus. (In: Russia
(1923-   U.S.S.R.) Vsesoyuznaya gosudarstvennaya sanitarnaya inspektsiya.
Ochistka promyshlennykh vybrosov v atmosferu. 1953, p.185) (MLRA 7:1)

1. Trest "Gazoochistka" Ministerstva khimicheskoy promyshlennosti.
(Air--Purification)

ANDRIANOV, A.P.; ZAYTSEV, M.M.; IDEL'CHIK, I.Ye.; POPOV, D.D.[deceased];
    TELEGOVSKIY, Ye.N.; UZHOV, V.N.; CHUMAK, L.I.; SHAKHOV, G.F.;
    SHIROKOV, F.A.; TOMCHINA, Ye.I., red.; ZAZUL'SKAYA, V.F., tekhn.
    red.

[Battery cyclones; instructions for designing, assembling, and
operating] Batareinye tsiklony; rukovodiashchie ukazaniia po
proektirovaniiu, montazhu i ekspluatatsii. 2. izd. Moskva, Gos.
nauchno-tekhn.izd-vo khim. lit-ry, 1959. 103 p. (MIRA 15:1)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po khimii.
                (Separators (Machines))

ZIL'BERBERG, A.Ye., inzh.; SHIROKOV, F.A., inzh.

From the history of the use of silver water. Sudostroenie 29
no.3:21 Mr '63.   (MIRA 16:4)
                    (Silver—Physiological effect)

SHIROKOV, F.I.

AID P - 825

Subject   : USSR/Engineering

Card 1/1   Pub. 78 - 10/26

Authors   : Genkin, M. A., Minskiy, Ye. M., Kozlov, A. L.,
               Teverovskiy, Ye. N. and Shirokov, F. I.

Title   : Cyclonic separator of the VNII (All-Union Scientific
               Research Institute)

Periodical : Neft. khoz., v. 32, #9, 41-43, S 1954

Abstract   : The cyclone type of water and dust particle separation
               from natural gas is described. A spiral deflector without
               moving parts is used for turbulent rotation of gas and a
               180° turn for particle separation. Apparatuses of various
               capacities are outlined on 3 drawings. 2 Russian references
               (1950-1951).

Institution: Scientific Research Institute. Gas Division (NIIOG)

Submitted   : No date

SHIROKOV,F.V.

Mercer's (summability) theorem. Usp.mat.nauk 10 no.4:167-170 '55.
                         (Series)   (MLRA 9:1)

SHISHKOV, P.V

SHISHKOV, P.V. "On Conjugate Trigonometric Series." Moscow Order of
Lenin State U imeni M.V. Lomonosov. Department of
Mathematics. Mechanics and Mathematics Faculty. Moscow,
1956 (Dissertation for the Degree of Candidate in Physico-
mathematical Science)

So: Knizhnaya letopis', no. 18, 1956

ŠIROKOV, F.V.

SUBJECT	USSR/MATHEMATICS/Algebra	CARD 1/2	PG - 430
AUTHOR	ŠIROKOV F.V.		
TITLE	Proof of a conjecture of Kaplansky.		
PERIODICAL	Uspechi mat. Nauk $\underline{11}$, 4, 167-168 (1956) reviewed 12/1956		

The author proves the conjecture of Kaplansky: In an associative (non commutative) normalized ring R the commutator $c = ab - ba$ of the elements a and b which is changeable with $\underline{one}$ of these elements is a quasi-nilpotent element. For the proof the author starts from the formula

(1)
$$\lambda c + b = e^{\lambda a} b\, e^{-\lambda a}$$

(it is assumed that $c = ab - ba$ commutates with a) which already appears in a paper of Vidov (Math. Zeitschr. $\underline{62}$, No.3, 330 (1955)). From (1) there follows

(2)
$$(\lambda c + b)^n = e^{\lambda a} b^n e^{-\lambda a};$$

(2) is differentiated n times and with aid of the expression

$$\frac{d^n}{d\lambda^n}\,(e^{\lambda a} b^n e^{-\lambda a}) = \sum_{k=0}^{n} (-1)^k \binom{n}{k} e^{\lambda a} a^{n-k} b^n a^k e^{-\lambda a}$$

SHIROKOV, F.V. (Moscow)

How mathematical discoveries are made ("Mathematics and plausible reasoning" [in English] by G. Polya. Reviewed by F. V. Shirokov). Mat. pros. no.2:303-306 '57.   (MIRA 11:7)

(Mathematics)

STSILARD, K.S. [translator]; SHIROKOV, F.V. [translator].

Fridesh Riss; obituary [translated from the Hungarian by
K.S.Stsilard and F.V.Shirokov]. Usp.mat.nauk 12 no.4:155-166
Jl-Ag '57.   (MIRA 10:10)
                        (Riss, Fridesh, 1880-1956)

SHIROKOV, F.V.

Translated mathematics books for publication by the publishing
house for foreign literature in 1958. Mat. pros. no.3:315-318
'58.   (MIRA 11:9)
            (Bibliography--Mathematics)

KHUA LO-KĒŊ [Hua Lo-kêng]; YEVGRAFOV, M.A. [translator]; GRAYEV, M.I.,
    red.; SHIROKOV, F.V., red.; REZOUKHOVA, A.G., tekhn.red.

[Harmonic analysis of functions of several complex variables in
classical domains] Garmonicheskii analiz funktsii mnogikh kom-
pleksnykh peremennykh v klassicheskikh oblastiakh. Pod red.
M.I.Graeva. Moskva, Izd-vo inostr.lit-ry, 1959. 163 p. Translated
from the Chinese.   (MIRA 13:4)
            (Functions of complex variables)

84758

16.2600

S/042/60/015/004/016/017XX
C111/C222

AUTHOR: Shirokov, P.V.

TITLE: The Solution of a Problem Formulated by Halmos (Notion of a Recurrent Sequence of Numbers) 16

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol.15, No.4, pp.185-192

TEXT: Let X be a space with a completely σ-finite measure μ, T be a mapping of X into itself which preserves the measure μ, $f(x)$ be an integrable function defined on X. The question of Halmos (Ref.1) on a suitable definition of a recurrent sequence is solved in the following manner:

Let $\{a_j\}_0^\infty$ be a sequence of finite real numbers; t - real number, $-\infty < t < \infty$. Among the first n terms of the sequence those are selected which are $\leq t$. Let $k_n(t)$ be their number divided by n. Beside of the given sequence $\{a_j\}_0^\infty$ the author considers sequences $\{a_j^+(A)\}_0^\infty$ and $\{a_j^-(A)\}_0^\infty$, where A is arbitrarily real. Here $a_j^+(A) = 0$ for $a_j \leq A$, $a_j^+(A) = a_j$ for $a_j > A$; $a_j^-(A) = a_j$ for $a_j \leq A$, $a_j^-(A) = 0$ for $a_j > A$. $k_n(t)$ is denoted as density, $k(t)$ as limit density.

Card 1/3

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C111/C222

The Solution of a Problem Formulated by Halmos (Notion of a Recurrent Sequence of Numbers)

Definition: The sequence $\{a_j\}_0^\infty$ is called recurrent if

d) there exists the limit value

(1) $\lim_{n\to\infty} k_n(t) = k(t),$

where the convergence is performed on a countable everywhere dense point set,

β) to every $\mathcal{E} > 0$ there exists an $A > 0$, so that for all n it holds

(2) $\left|\frac{1}{n}\sum_{j=0}^{n-1} a_j^+(A)\right| < \mathcal{E}, \quad \left|\frac{1}{n}\sum_{j=0}^{n-1} a_j^-(-A)\right| < \mathcal{E}.$

Theorem 1: The recurrent sequence $\{a_j\}_0^\infty$ is summable according to the method

(C,1) with the finite value $L = \int_{-\infty}^{\infty} t \, d\, k(t).$

Card 2/3

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S/042/60/015/004/016/017XX
C111/C222

The Solution of a Problem Formulated by Halmos (Notion of a Recurrent Sequence of Numbers)

Theorem 2: The sequence $\{f(T_x^i)\}$ is almost everywhere recurrent. If here the transformation T is ergodic, then the limit density k(t), in general depending on x, is the same almost everywhere on X. This function k(t) is given by:

Case 1: $\mu(X) < \infty$

$k(t) = \mu(G_t)/\mu(X)$, where the set $G_t = \{y : f(y) \leqslant t\}$.

Case 2: $\mu(X) = \infty$

$k(t) = \begin{cases} 1 \text{ for } t > 0 \\ 0 \text{ for } t < 0. \end{cases}$

The author thanks S.V.Fomin for attention. There are 3 references: 1 Soviet and 2 Japanese.

[Abstracter's note: (Ref.1) concerns P.R.Halmos, Lectures on Ergodic Theory] \\\psi

SUBMITTED: February 16, 1959
Card 3/3

GEL'FAND, Izrail' Moiseyevich; VILENKIN, Naum Yakovlevich; SHIROKOV, F.V.,
        red.; YERMAKOVA, Ye.A., tekhn.red.

[Some applications of harmonic analysis. "Fitted" Hilbert spaces]
Nekotorye primeneniia garmonicheskogo analiza. Osnashchennye
gil'bertovy prostranstva. Moskva, Gos.izd-vo fiziko-mat. lit-ry,
1961. 472 p. (Obobshchennye funktsii, no.4).   (MIRA 14:8)
                (Harmonic analysis) (Hilbert space)

YELEN'SKIY, Shchepan [Jelenski, Shchepan]: BOYARSKAYA, G.F. [translator];
    BOYARSKIY, B.V. [translator]; YAKUSHEV, A.A [translator]; SHIROKOV,
    F.V., nauchnyy red.; MIKOYAN, E.P., otv. red.; MARKOVICH, S.G.,
    tekhn. red.

    [Following the tracks of Pythagoras; entertaining mathematics] Po
    sledam Pifagora; zanimatel'naia matematika. Moskva, Gos. izd-vo
    detskoi lit-ry M-va prosv. RSFSR, 1961. 485 p. Translated from
    the Polish.   (MIRA 14:9)
              (Mathematics—Juvenile literature)

GEL'FAND, Izrail' Moiseyevich; GRAYEV, Mark Iosifovich; VILENKIN, Naum
    Yakovlevich; SHIROKOV, F.V., red.; KRYCHKOVA, V.N., tekhn.red.

[Integral geometry and problems of the theory of representa-
tions connected with it] Integral'naia geometriia i sviazannye
s nei voprosy teorii predstavlenii. Moskva, Gos. izd-vo fiziko-
matem. lit-ry, 1962. 656 p. (Obobshchennye funktsii, no.5).
                                                 (MIRA 16:2)
          (Geometry, Modern)   (Functional aanalysis)

SHIROKOV, F.V.

"Converting a diffusion process into a Wiener one" by I.D.
Cherkasov. Reviewed by F.V.Shirokov. Teor. veroiat. i ee prim.
9 no.1:175-177 '64.   (MIRA 17:4)

POSTNIKOV, Mikhail Mikhaylovich; SHIROKOV, F.V., red.

[Variational theory of geodesics] Variatsionnaia teoriia
geodezicheskikh. Moskva, Nauka, 1965. 248 p.
(MIRA 18:7)

GOKHBERG, Izrail' TSudikovich; KREYN, Mark Grigor'yevich;
SHIROKOV, F.V., red.

[Introduction to the theory of linear non-self-adjoint
operators in Hilbert space] Vvedenie v teoriiu lineinykh
nesamosopriazhennykh operatorov v gil'bertovom prostran-
stve. Moskva, Nauka, 1965. 448 p.   (MIRA 19:1)

1. SHIROKOV, G. G.

2. USSR (600)

4. Telecommunication

7. They are studying for a second profession, Sov. sviaz., 5, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, ___April,___ 1953, Uncl.

18(5)   SOV/112-59-2-3520

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 2, p 184 (USSR)

AUTHOR: Dubrov. V. M., and Shirokov, G. G.

TITLE: Controlling a Group of Guiding-Rope Winches (About an Article by Ye. F. Sklyarenko) (Upravleniye gruppoy lebedok dlya napravlyayushchikh kanatov /Na stat'yu Ye F. Sklyarenko/)

PERIODICAL: Shakhtnoye str-vo. 1958. Nr 1, pp 21-22

ABSTRACT: Disadvantages are listed of the scheme for controlling a group of guiding-rope winches described in an article by Ye F. Sklyarenko (see Referativnyy Zhurnal, Elektrotekhnika, 1958, 19760). Operating experience is reported with installations for joint control of winches developed by Giproshakhtostroymash. One illustration.

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DU'ROV, V.M., inzh.; SHIROKOV, G.G., inzh.

Electric signal system used in shaft sinking. Bezop.truda v prom. 4
no.4:24   Ap '60.   (MIRA 13:9)
                    (Electricity in mining)

KAVDSROV, A.V.; KUROCHKIN, B.N.; SHIROKOV, G.I.; KOKAREV, N.I., dotsent, retsenzent; PANFILOV, M.I., inzhener, retsenzent.

[Thermal processes of open-hearth furnaces in rapid steel making]
Teplovye rezhimy martenovskikh pechei pri skorostnom stalevarenii.
Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii. 1953. 140 p.   (MLRA 7:6)

1. VNIIT.   (Open-hearth process)

KHODAKOVSKIY, V.V.; YEFIMOV, V.A., kand. tekhn. nauk, starshiy nauchnyy
rabotnik; KOSENKO, P.Ye., kand. tekhn. nauk; KAZAKEVICH, S.S.;
LAPITSKIY, V.I., prof., doktor tekhn. nauk; FILIP'YEV, O.V.;
STROGANOV, A.I., kand. tekhn. nauk, dots.; DEMIDOVICH, A.V.;
BORNATSKIY, I.I., kand. tekhn. nauk; MEDZHIBOZHSKIY, M.Ya., dots.;
KOCHO, V.S., prof., doktor tekhn. nauk; RYN'KOV, V.I.; LOMAKIN,
L.M., mladshiy nauchnyy sotrudnik; KOKAREV, N.I., dots.; KLYUCHAREV,
A.P.; PLYUSHCHENKO, Ye.A.; KAPUSTIN, Ye.A., kand. tekhn. nauk, dots.;
KOBEZA, I.I., kand. tekhn. nauk, nauchnyy sotrudnik; SHIROKOV, O.I.;
UMRIKHIN, P.V., prof., doktor tekhn. nauk; LEZHAVA, K.I.; ZHIGULIN,
V.I.; MOROKOV, P.K.; KHLEBNIKOV, A.Ye., prof., doktor tekhn. nauk,
starshiy nauchnyy sotrudnik; TARASOV, N.S.; NIKOLAYEV, A.G.

Discussions. Biul. TSNIICHM no.18/19:40-66 '57.   (MIRA 11:4)

1. Starshiy inzhener Glavspetsstali Ministerstva chernoy metallur-
gii SSSR (for Khodakovskiy). 2. Institut gaza (for Yefimov). 3. Di-
rektor Dneprodzerzhinskogo metallurgicheskogo instituta (for
Kosenko). 4. Nachal'nik laboratorii Leningradskogo instituta ogne-
uporov (for Kazakevich). 5. Zaveduyushchiy kafedroy metallurgii
stali Dnepropetrovskogo metallurgicheskogo instituta (for Lapitskiy).
6. Nachal'nik laboratorii Giprostali (for Filip'yev). 7. Chelyabin-
skiy politekhnicheskiy institut (for Stroganov). 8. Nachal'nik
teplotekhnicheskoy laboratorii Severskogo metallurgicheskogo zavoda
(for Demidovich). 9. Zamestitel' nachal'nika TSentral'noy zavodskoy
laboratorii Makeyevskogo metallurgicheskogo zavoda (for Bornatskiy).
                                        (Continued on next card)

KHODAKOVSKIY, V.V.---(continued) Card 2.
    10. Sibirskiy metallurgicheskiy institut (for Medzhibozhskiy).
    11. Zaveduyushchiy kafedroy metallurgii stali Kiyevskogo politekhni-
cheskogo instituta (for Kooho). 12 Ispolnyayushchiy obyazannosti
glavnogo inzhenera Beloretskogo metallurgicheskogo kombinata (for
Ryn'kov). 13. Vsesoyuznyy nauchno-issledovatel'skiy institut metal-
lurgicheskoy teplotekhniki (for Lomakin). 14. Ural'skiy politekhni-
cheskiy institut (for Kokarev). 15. Zamestitel' nachal'nika teplo-
tekhnicheskoy laboratorii Nizhne-Tagil'skogo metallurgicheskogo
kombinata (for Klyucherov). 16. Nachal'nik teplotekhnicheskoy labo-
ratorii TSentral'noy zavodskoy laboratorii zavoda im. Voroshilova
(for Plyushchenko). 17. Zhdanovskiy metallurgicheskiy institut
(for Kapustin). 18. Institut metallurgii im. Baykova AN SSSR (for
Kobeza). 19. Nachal'nik laboratorii martenovskikh pechey Vsesoyuz-
nogo nauchno-issledovatel'skogo instituta metallurgicheskoy teplo-
tekhniki (for Shirokov). 20. Zaveduyushchiy kafedroy metallurgii
stali Ural'skogo politekhnicheskogo instituta (for Umrikhin).
21. Nachal'nik metallurgicheskoy laboratorii TSentral'noy zavodskoy
laboratorii Zakavkazskogo metallurgicheskogo zavoda (for Lezhava).
22. Zamestitel' glavnogo inzhenera zavoda im. Petrovskogo (for
Zhigulin). 23. Nachal'nik martenovskogo tsekha Kuznetskogo metal-
lurgicheskogo kombinata (for Morokov). 24. Institut metallurgii im.
Baykova AN SSSR (for Khlebnikov). 25. Glavnyy inzhener Petrovsk-
Zabaykal'skogo metallurgicheskogo zavoda (for Tarasov). 26. Nachal'-
nik tsekha Magnitcgorskogo metallurgicheskogo kombinata (for
Nikolayev).
                (Open-hearth process)

SHIROKOV, G.I.

       Use of oxygen in open-hearth furnaces. Trudy NTO chern. met. 20:402-
408 '60.   (MIRA 13:10)

       1. Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy
teplotekhniki.
                 (Open-hearth furnaces)

NEVSKIY, Aleksandr Sergeyevich; KAVALEROV, A.V., doktor tekhn. nauk,
red.; SHIROKOV, G.I., retsenzent; YAKOVENKO, N.N., red.
izd-va; KARASEV, A.I., tekhn. red.

[Heat transfer in open-hearth furnaces] Teploperedacha v
martenovskikh pechakh. Moskva, Metallurgizdat, 1963. 229 p.
(MIRA 17:2)

GISMER, L.I., SHIROKOV, G.K.

"The correlation between the production of capital goods and the production
of consumer goods permitting the most effective development of an
independent economy in undeveloped countries."

Report submitted to the Conf. on the Application of Science and Technology
for the Benefit of the Less Developed Areas.
Geneva, Switzerland   4-20 February 1963

SHIROKOV, I., komandir samolota An-2 (Salekhard)

       Two suggestions. Grazhd. av. 19 no.4:26 Ap '62. (MIRA 15:5)
          (Aeronautics, Commercial--Technological innovations)

SHIROKOV, I.K., nauchnyy sotrudnik

Replantation of teeth in acute odontogenic osteomyelitis. Trudy
Nauch.-issl.inst.stom. no.10:79-84 '62.   (MIRA 15:10)
                    (OSTEOMYELITIS) (DENISTRY, OPERATIVE)

USSR/Electricity   Mar 1948
     Currents, Electric - Leakage
     Transmission Lines

"Cases of Ignition of Wooden Posts From Leakage Cur-
rents on 35 and 2 Kilowatt Electric Transmission
Lines," I. L. Shirokov, KazEnergoNeft', 3½ pp

"Energeticheskiy Byulleten'" No 3

In 1945 there were 14 cases of ignition of transmis-
sion line poles recorded in KazEnergoNeft' trust.
Meteorological conditions, mechanical conditions and
all other aspects of this problem are discussed.

61T22

PA 42/49T9

SHIROKOV, I. L.

USSR/Electricity   Mar 49
    Power Plants, Diesel
    Gears

"Alteration of Type RBA-11 Gear," I. L. Shirokov,
1 p

"Energet Byul" No 3

Discusses alteration of type RBA-11 gear due
to a difficulty which developed at the relay
protection of the 6,000-volt side of the   .
feeder during the start of operation of the
electric transmission power-system line,
uniting two Diesel electric stations.
Gives two diagrams of mechanism.
                                   42/49T9

SHIROKOV, I.L., inzhener.

Device for pressing stator coil ends for the electric motors of
power tools. Strei. i der.mashinestr. no.7:32 Jl '56.(MLRA 9:10)
(Electric meters)

In connection the suitability of electric motors for power consumption.

SHIROKOV, I.V. (Sochi)

Winter flowering of ash. Priroda 50 no.11:127 N '61.

(MIRA 14:10)

(Caucasus--Winter)

EPA(s)-2/EPA(w)-2/EWA(h)/EWT(1)/EEC(t)/EWA(m)-2   Pab-10/Peb   GG

ACCESSION NR: AP5010686   UR/0141/65/008/001/0162/0168

AUTHOR: Levitskiy, S. M.; Yavlinskiy, A. Ya.; Shirokov, I. V.

TITLE: Effect of constant electric and magnetic fields on the formation time of a microwave pulse discharge in a gas

SOURCE: IVUZ. Radiofizika, v. 8, no. 1, 1965, 162-168

TOPIC TAGS: microwave discharge, discharge formation time, microwave commutator, microwave switching, field effect

ABSTRACT: The authors investigated the influence of constant electric and magnetic fields on the forming time of microwave pulse discharges in air at pressures $10^{-2} - 10^{-1}$ mm Hg. The research was motivated by the fact that when operating with microsecond pulses, the duration of the discharge forming time may be commensurate with the duration of the pulse itself, making it difficult to employ constant discharges for microwave switching. The experimental set-up is shown in the enclosure. A pulse magnetron generator produced pulses of approximately 1 microsecond duration with a repetition frequency of 350 cps.

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L 46147-65
ACCESSION NR: AP5010686

The generator frequency was 2832 Mcs. A measured fraction of the generator power
was used to excite the investigated high-frequency discharge in a discharge tube
installed in a resonator. The shape of the pulse passing through the resonator is
shown in Fig. of the Enclosure as a function of the constant magnetic field and
of the constant voltage. The results indicate that the constant electric field
of the time of pulse shaping (near cyclotron resonance), whereas a con-
stant magnetic field reduces the shaping time, so that the joint effects of the
two fields have a tendency to cancel each other. Physical reasons for these
are discussed. "The authors thank Z. A. Plyatsok for help with the
reduction."   art. has: 5 figures and 2 formulas.
[02]

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet (Kiev State University)

SUBMITTED: 04Apr64   ENCL: 02   SUB CODE: EC, EM

NO REF SOV: 001   OTHER: 005   ATD PRESS: 4002

Card 2/4

SHIMONOV, I. I.

"The Effect of Vitamin B1 on the Secretory Function of the Stomach," Sov. Med., No. 1, 1948 Mar., Propaedeutics Clinic, 1st Moscow Ord. Lenin Med. Inst. —c1948—.

LIFOVSKAYA, Valentina Mikhaylovna; SHIROKOV, K.A., red.

[Experience in the work of the volunteer bureau of
technical information in the Kirov Spinning and Yarn
Combine] Opyt raboty obshchestvennogo biuro tekhniche-
skoi informatsii priadil'no-nitochnogo kombinata im. S.M.
Kirova. Leningrad, 1964. 26 p.   (MIRA 18:4)

SHIROKOV, K.P.

    Testing potentiometers by Diesselhorst's method. Trudy VNIIM
    no.1:72-95 '47.   (MIRA 11:11)
               (Potentiometer--Testing)

SHIROKOV, K.P.

New six-decade potentiometer. Trudy VNIIM no.6:45-74 '49.
                    (Potentiometer)   (MIRA 11:11)

SHIROKOV, K.P.

Set of instruments for checking ammeters and voltmeters at a.c.
higher frequencies. Trudy VNIIM no.24:24-56 '54.   (MIRA 10:12)
                        (Ammeter)   (Voltmeter)

SHIROKOV, K. P.

"Corrections of Readings of Certain Compensator Types of Direct Current"
T. Vses. n-i. In-ta Metrologii, No 24, 1954, 77-94

Discussed are electrical circuits of the most used types of pentade-cade compensators PV-1, PV-2, PV-6, PN-1, and PN-2 of the "Etalon" plant, the "ladder" "stage" and bridge types for measuring low end (by types PPTN and KL-48), and bridge type PMS-48. Analysis of formulas derived for corrections of the instruments require complex computations. Most easily corrected are compensators of the type PV-6 of the "Etalon" plant and the bridge compensator PS-48. These two types of compensators give the highest accuracy of measurements. (RZhFiz, No 9, 1955)

SO: Sum-No 787, 12 Jan 56

SHIROKOV, K.P.

Precision instrument for balancing double bridges. Trudy VNIIM
(MIRA 10:12)
no.24:94-104 '54.   (Electric instruments)

112-3-6147

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 3, p. 158, (USSR)

AUTHOR: Shirokov, K.P.

TITLE: Use of Quadrant Electrometer for Checking Wattmeters on Alternating Current at Higher Frequencies (Primeneniye kvadrantnogo elektrometra dlya poverki vattmetrov na peremennom toke povyshennoy chastoty)

PERIODICAL: Tr. Vses. n.-1. in-ta metrol., 1956, Nr 28, pp. 5-19

ABSTRACT: A new type of electrometer (author's certificate No. 100156) was developed for measuring a-c power at higher frequencies. The instrument differs from previous electrometers in that zero adjustment is made by means of a magnetoelectric resetter, which is deflected by auxiliary direct current. As explained in the author's description of the theory of operation, there is no need for rigid requirements of shape and symmetrical arrangement of quadrants and bisque, constant twisting torque of the suspension, and graduation of many points on the scale;

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112-3-6147

Use of Quadrant Electrometer for Checking Wattmeters on Alternating
Current at Higher Frequencies   (Cont.)

the accuracy of the readings is greater, and it becomes
possible to determine the constant of the instrument for
the frequency at which it will be used. The construction
of the electrometer is described, its basic parameters
are presented, and an analysis is made of the error of
the method, on the basis of which a conclusion is drawn
concerning the applicability of this method to accurate
power measurements (on the order of several hundredths of
a per cent), at frequencies up to several tens of
thousands of cps. Finally, the results of several experi-
mental studies substantiating the theoretical conclusions
are presented.

M.A.B.

Card 2/2

Shirokov, K. P.

SHIROKOV, K.P.; GINZBURG, V.A.

Effect of magnetic fields on manganin resistors. Trudy VNIIM no.28:
102-106 '56.   (MIRA 10:12)
              (Magnetic fields)   (Electric resistance)

ARUTYUNOV, V.O.; GORBATSEVICH, S.V.; ZUBRILIN, V.P.; KOLOSOV, A.K.; ROMA-
     NOVA, M.F.; TIKHODEYEV, P.M.; CHERNYSHEV, Ye.T.; SHIROKOV, K.P.;
     SHRAMKOV, Ye.G.; YANOVSKIY, B.M.

Mikhail Fedoseevich Malikov; on his 75th birthday. Izm. tekh. no.2:
85-86 Mr-Ap '57.   (MIRA 10:6)
                    (Malikov, Mikhail Fedoseevich, 1882-)

ARTYUNOV, V.P.; DOLINSKIY, Ye.F.; KOLOSOV, A.K.; MAKSIMOV. L.M.; ROMANOVA,
    M.F.; RUDO, N.M.; CHECHURINA, Ye.N.; SHIROKOV, K.P.; SHRAMKOV,
    Ye.C.; YANOVSKIY, B.M.

E.T. Chernyshev; 50th birthday anniversary and 30th anniversary of
scientific and pedagogic activities. Izm. tekh. no.3:01 My-Je '57.
            (Chernyshev, Evgenii Titovich, 1907-)   (MLRA 10:3)

SHIROKOV, K.P.; SHRAMKOV, Ye.G.

Metrological work in the field of electric and magnetic measurements.
Izm. tekh. no.6:61-64 N-D '57.   (MIRA 10:12)
        (Electric measurements)   (Magnetic measurements)

SHRAMKOV, Ye.G.; GORBATSEVICH, S.V.; KOLOSOV, A.K.; DROTKOV, I.N.; ROZHDESTVENSKAYA, T.B.; SHIROKOV, K.P.; CHERNYSHEV, Ye.T.; YANOVSKIY, B.M.

Metrological activities in the field of electric and magnetic measurements. Trudy.VNIIM no.33:60-93 '58.   (MIRA 11:11)

1. Rukovoditel' otdela elektricheskikh i magnitnykh izmereniy Vsesoyuznogo nauchno-issledovatel'skogo instituta metrologii imeni D.I. Mendeleyeva (for Shramkov).
                (Electric measurements) (Magnetic measurements)

SHIROKOV, K.P.

Precision in checking the electric resistance devices. Trudy
VNIIM no.38:86-102 '59. (MIRA 13:4)
(Electric resistors)

SHIROKOV, K.P.

Check sheets developed by the All-Union Scientific Research
Institute of Metrology. Izm.tekh. no.7:12-16 Jl '60.
(MIRA 13:7)

(Weights and measures--Testing)
(Measuring instruments--Testing)

SHIROKOV, K.P.

Graphic method of working up bathythermograph readings. Trudy GOIN
no.55:224-229 '60.

(Bathythermograph)

(MIRA 14:7)

BETIN, V.V.; SHIROKOV, K.P.

Determining the elements of ice drift in the sea from the airplane. Trudy GOIN no.63:64-77 '61.   (MIRA 14:8)
(Sea ice) (Aerial photogrammetry)

SHIROKOV, K. P.

Draft recommendations of the All-Union Research Institute of
Metrology "Basic metrological terms and definitions." Trudy
inst. Kom. stand. mer i izm. prib. no.57:101-122 '62.
                                    (MIRA 15:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii
im. D. I. Mendeleyeva.

(Mensuration—Terminology)

SHIROKOV, K.P.

          Innovations in the measurement of mass. Izm.tekh, no.2:24 F
'63.   (MIRA 16:2)
                 (Weights and measures)

BOGUSLAVSKIY, Moisey Grigor'yevich, kand. tekhn.nauk; KREMLEVSKIY,
    Panteleymon Petrovich, kand. tekhn. nauk; OLEYNIK, Boris
    Nikolayevich, kand. tekhn. nauk; CHECHURINA, Yekaterina
    Nikolayevna, kand. tekhn.nauk; SHIROKOV, Konstantin
    Pavlovich, kand. tekhn.nauk; BURDUN, G.D., doktor tekhn.
    nauk, retsenzent; RYSKO, S.Ya., red.izd-va; MEDVEDEV, L.Ya.,
    tekhn. red.

[Tables for the conversion of measurement units] Tablitsy
perevoda edinits izmerenii. [By] M.G.Boguslavskii i dr.
Moskva, Standartgiz, 1963. 116 p.   (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii
im. D.I.Mendeleyeva (for Boguslavskiy, Kremlevskiy, Oleynik,
Chechurina, Shirokov).

BURDUN, Grigoriy Dmitriyevich, prof.: KALASHNIKOV, Nikolay Vasil'yevich;
STOTSKIY,Lev Rudol'fovich; VUKALOVICH,M.P.,prof., doktor tekhn.
nauk, laureat Leninskoy premii, retsenzent; SHIROKOV,K.P.,
doktor tekhn. nauk, retsenzent; PERKOVSKAYA, G.Ye., red.

[International system of units] Mezhdunarodnaia sistema
edinits. Moskva, Vysshaia shkola, 1964. 273 p.
(MIRA 17:11)
1. Rukovoditel' kafedry teoreticheskikh osnov teplotekhniki
Moskovskogo energeticheskogo instituta (for Vukalovich).
2. Rukovoditel' metrologicheskogo otdela Vsesoyuznogo na-
uchno-issledovatel'skogo instituta metrologii im. D.I.
Mendeleyeva (for Shirokov).

SHILAKOV, K.P.

Development of a metric system of measures and the ways to
a transition to the international Units System in the
U.S.S.R. Izm. tekh. no. 4:13-16 Ap '64.   (MIRA 17:7)

S/2634/64/000/071/0125/0140

ACCESSION NR: AT4038922

AUTHOR: Betin, V. V.; Losev, S. M.; Shirokov, K. P.

TITLE: Aerial photography of marine ice floes

SOURCE: Moscow. Gosudarstvenny*y okeanograficheskiy institut. Trudy*, no. 71, 1964. Issledovaniye izmenchivosti ledovitosti nekotory*kh morey (Investigating the variability in ice formation on some seas), 125-140

TOPIC TAGS: oceanography, drift ice, ice floe, aerial photography, ice flow photography, marine ice

ABSTRACT: This extensive article is in four parts. In the first section, the authors discuss aerial photographic field work in general terms. Cartographic and reconnaissance factors are considered which must precede the actual photographic operations. Recommendations are given regarding the linear value of the base for various frame formats, scale and camera types. Tack length is also considered for situations involving photography along the shore, along the fast ice line (shore ice) and over open water. It is pointed out that an extremely desirable condition when selecting the routing is the possibility of a two-way connection or orientation of that routing with certain fixed features (islands,

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capes, promontories, fast ice zone, etc.). The time intervals between subsequent
sorties are to be so scheduled that not less than 50% of the floating ice area re-
corded on the pictures of a preceding tack is represented on the next succeeding
aerial photography routing. The use of the smallest possible scale is recommended
and the reasons why, in aerial photographic work involving the study of ice drift,
this scale should always be minimal for given resolution of the equipment, cor-
responding meteorological conditions and dimensions of the ice floes to be photo-
graphed are explained. The importance of parallel observations over surface
currents in the gaps between floes is noted. Recommendations are given with
respect to the depth of immersion of float buffers and the point is made that
this depth should correspond to the thickness of the ice. The authors note that
it is advisable to carry out aerial photography in parallel with two cameras
capable of simultaneously photographing at two scales: 1 : 20,000 - 1 : 40,000.
for the ice drift proper and 1 : 5,000 for the disposition of the floats. The
second part of the article analyzes the results of the aerial photography per-
formed in the Gulf of Finland in 1961. This material was broken down into three
groups. The first group contains materials obtained in photo passes made along
the coast or the edge of the fast ice (coast ice); the second group contains
material from cantilever extensions; the third group contains the material from

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closed passes, resting at fixed reference points on both ends. The data pro-
cessing of the information from all three groups is discussed in this section.
The authors point out that the determination of the elements of ice drift on
the basis of the materials of each of these groups is possible through the use
of graphic photo-triangulation. However, for the first group, under certain
conditions, the problem may be simplified somewhat with no appreciable loss of
accuracy in the results obtained. For this purpose, it is sufficient to limit
oneself to the use of conventional photo. layouts (aerial mosaics, in this case),
mounted from contact prints, without recourse to the plotting of photo-triangu-
lation nets. Since the problem of the processing of aerial photography material
on drift ice is of definite interest, the authors have considered it necessary
to consider the peculiarities of this problem in detail as they apply to each of
the three cases. The third section of the paper deals with method accuracy. The
ice drifting elements, obtained as a result of the processing of the material
for each of the three groups above,naturally contain errors. Since the charac-
ter of these errors and their magnitude will be somewhat different in each
separate case, the degree of accuracy in the results derived will also be dif-
ferent. For all three processes, the accuracy in the determination of the speed
and direction of the drift will increase as the route length decreases, as the
duration of the time interval between sorties increases and as the drift speeds

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ACCESSION NR: AT4038922

increase. Since the speed of the drift is independent of human intervention, in order to obtain drift material of given accuracy only the first two elements can be varied. It is not always possible to reduce the route length, since this is limited by the region under study. Consequently, all other conditions being equal, the accuracy of the derived information can be enhanced solely by increasing the time interval between contiguous tacks. The problem is analyzed mathematically in the article. In the example considered by the authors (ex-posure scale 1 : 20,000; base number 23 - 25; time between sorties about 1 hour; drift on the order of 0.5 km/hour) the errors in the center section of the photo passes were not more than 15% for the speed of drift, and not more than 10% for the direction. The fourth and final section of the article gives a detailed description of the use of repetitive aerial photography for the study of ice drifting in Kursh Bay (Kurshkiy zaliv) and in the adjacent area of the Baltic Sea. The ice was photographed over the same routes which were so layed out that it was possible, at least along the edge of the picture, to obtain an image of the coastal strip of dry land. In this way, a point of reference on the coast line was provided for all pictures and the position of the ice flows was strictly coordinated on the basis of orientation markers on the shore. This section is supplemented with charts and maps. The data on ice drifting obtained in this

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ACCESSION NR: AT4038922

operation make it possible to recommend the method for wide use in the inves-
tigation of ice drifting both in open as well as in coastal waters. The general
conclusions reached by the authors in this article can be summarized as follows:
1. The use of the method of repeated aerial photographic tacks permits the estab-
lishment of the laws of ice drifting as a function of wind conditions, while at the
same time embracing all the varieties of ice encountered at sea. 2. Experience
in the use of aerial photography for the study of ice drift conditions makes it
possible to recommend this method for practical utilization. 3. Aerial photo-
graphy operations can be carried out over routes enclosed between two objects
on dry land, by cantilever extension routes or by routes running along the coast
line or edge of the fast ice (coast ice). 4. The smallest scales permissible
under the given weather conditions, flow dimensions and resolving power of the
photographic equipment in use should be employed. 5. Before photographing an
ice drift from the air, it is expedient to drop special floats containing a charge
of fluorescent material in the intervals between the floes. In this connection,
the exposure should be made on two scales: on a small scale for the ice drift
proper, and on a larger scale for the disposition of the floating markers. 6.
Meteorological conditions (cloud formation, visibility, illumination) place the
same constraints on the use of aerial photography for the study of ice drifting
as on its other applications. Problems relating to the accuracy of the determin-

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ation of ice drift elements at sea by the method of vertical aerial photography require further development and refinement. Orig. art. has: 5 figures and 12 formulas.

ASSOCIATION: Gosudarstvenny*y okeanograficheskiy institut, Moscow (State Institute of Oceanography)

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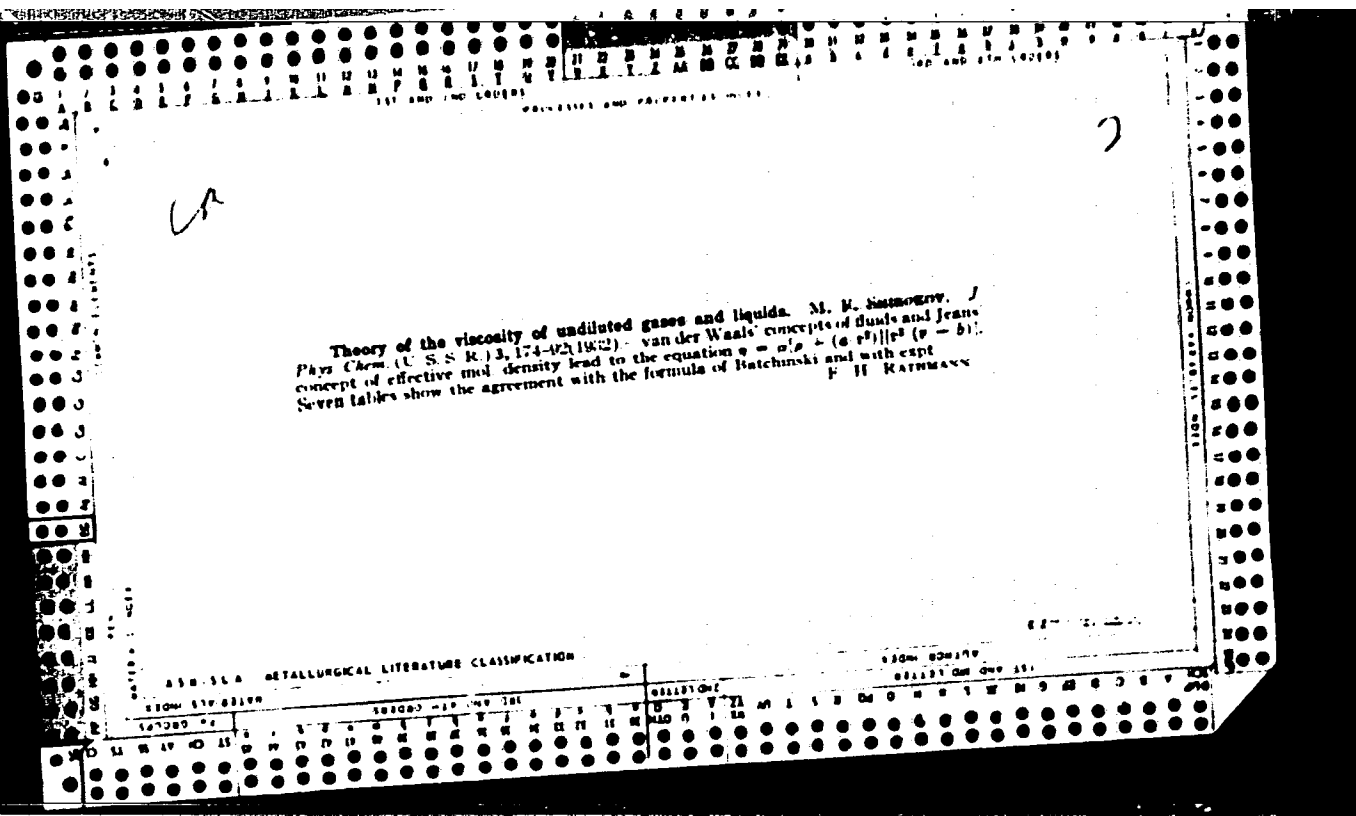BOGOSLAVSKII, Sergey Grigor'yevich; SHIMANOV, Konstantin Pavlovich;

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